



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,869	12/29/2000	Akhilesh Kumar	2207/9861	1463

7590

02/23/2005

Kenyon & Kenyon

Suite 600

333 W. San Carlos Street

San Jose, CA 95110-2711

EXAMINER

PHAN, RAYMOND NGAN

ART UNIT

PAPER NUMBER

2111

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/752,869	Applicant(s) KUMAR ET AL.	
	Examiner Raymond Phan	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-21 are pending.
2. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2111.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objection

As per claim 8 (page 11, line 1), claim 9 (page 11, line 1), claim 10 (line 11, line 1), claim 15 (page 12, line 1), claim 16 (page 12, line 1), claim 20 (page 12, line 1), claim 21 (page 12, line 1), the acronym, "...TBL...", is vague. Applications request to spell out the acronym in the claim before use.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United

States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-7, 11-14, 17-19 are rejected under 35 U.S.C. § 102(e) as being anticipated by Carpenter et al. (US No. 6,081,874).

In regard to claims 1, 11, 17, Carpenter et al. disclose a multi-node system comprising: a first node 10a including a first processor 14a and a first node controller 20 (see figure 1), where said first processor is to generate a transaction request (see figure 3A, col. 9, lines 60-63) and said first node controller is to assert a signal (i.e. vote) to said first processor to indicate that processing of said request is incomplete (see figure 3A, col. 10, lines 4-13).

In regard to claims 2, 12, Carpenter et al. disclose further comprising: a second node controller (from 10c) coupled to said first node controller to receive said request (see figure 1, col. 10, lines 44-57).

In regard to claims 3, 13, 18, Carpenter et al. disclose wherein said second node controller is part of a second node 10c (i.e. target node) including a second processor coupled to said second node controller (see figure 1), wherein said second processor is to complete said request (see figure 3B, col.13, lines 5-36).

In regard to claim 4, Carpenter et al. disclose further comprising: a switching agent 22 coupled between said first and second node controllers (see figure 1).

In regard to claim 5, Carpenter et al. disclose wherein said second processor (i.e. target node) is to complete said request (see figure 3B, col. 13, lines 5-36).

In regard to claims 6, 14, 19, Carpenter et al. disclose where said first node controller is to deassert said signal when said request is completed at said second node (see col. 13, lines 5-36).

In regard to claim 7, Carpenter et al. disclose where said first node controller is to deassert said signal when said request is completed at said second node (see col. 13, lines 5-36).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-10, 15-16, 20-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Carpenter et al. in view of Tarui et al. (US No. 6,510,496).

In regard to claim 8-10, 15-16, 20-21, Carpenter et al. teach the claimed subject matter as discussed above except the teaching of the request is a purge TLB entry request. However Tarui et al. disclose the symmetric multiprocessor that nodes each having CPU coupled by a bus and main memory are connected by a switch and cache coherence control comprising processor issuing a purge TLB request (see figures 15-16, col. 18, line 50 through col. 19, line 20). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Tarui et al. within the system of Carpenter et al. because it would provide dynamically managing the memory shared among processors.

Conclusion

8. All claims are rejected.

9. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Yamada et al. (US No. 5,617,537) disclose a message passing system for distributed shared memory multiprocessor system and message passing method using the same.

Arimilli et al. (US No. 6,405,289) disclose a multiprocessor system in which a cache serving as a highest point of coherency is indicated by a snoop response.

Baumgartner et al. (US No. 6,108,764) disclose a NUMA data processing system with multiple caches concurrently holding data in a recent state from which data can be sourced by shared intervention.

Anderson et al. (US No. 6,516,372) disclose a partitioning a distributed shared memory multiprocessor computer to facilitate selective hardware maintenance.

McCroy et al. (US No. 6,640,289) disclose a software controlled cache line ownership affinity enhancements in a multiprocessor environment.

Brewer (US No. 6,668,314) discloses a virtual memory translation control by TLB purge monitoring.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

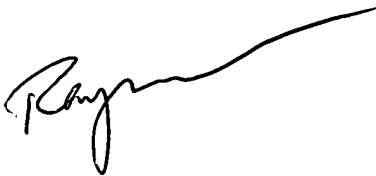
All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Application/Control Number: 09/752,869
Art Unit: 2111

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571) 272-2100.

A handwritten signature in black ink, appearing to read 'Raymond Phan', with a long horizontal flourish extending to the right.

Raymond Phan

2/18/05